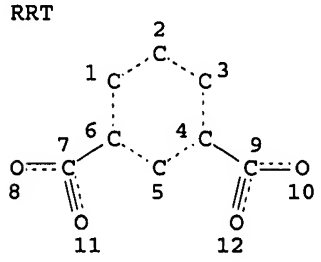
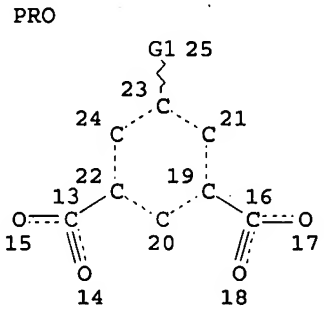
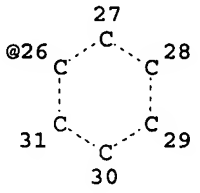
```
=> b casre
FILE 'CASREACT' ENTERED AT 14:32:10 ON 07 JUN 2007
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT
COPYRIGHT (C) 2007 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is
held by the publishers listed in the PUBLISHER (PB) field (available
for records published or updated in Chemical Abstracts after December
26, 1996), unless otherwise indicated in the original publications.

FILE CONTENT:1840 - 2 Jun 2007 VOL 146 ISS 24

New CAS Information Use Policies, enter HELP USAGETERMS for details.

*************************************************************
*                                                           *
*     CASREACT now has more than 12 million reactions       *
*                                                           *
*************************************************************

Some CASREACT records are derived from the ZIC/VINITI database (1974-1999)
provided by InfoChem, INPI data prior to 1986, and Biotransformations
database compiled under the direction of Professor Dr. Klaus Kieslich.

This file contains CAS Registry Numbers for easy and accurate substance
identification.

=> d que sta l8
L3                STR
```

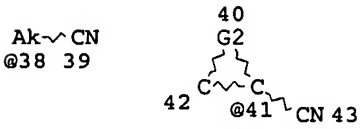
RRT



PRO

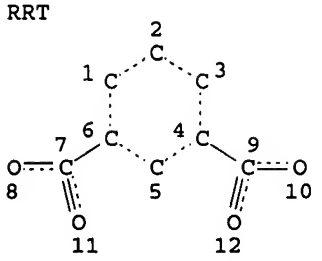




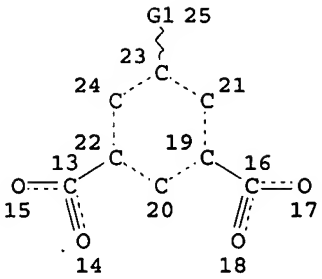


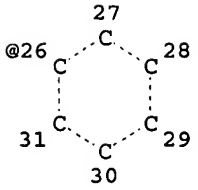

```
VAR G1=S/N/CN/AK/X/38/26/41
REP G2=(1-4) C
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  37

STEREO ATTRIBUTES: NONE
L5          352 SEA FILE=CASREACT SSS FUL L3 (  2701 REACTIONS)
L6              STR
```

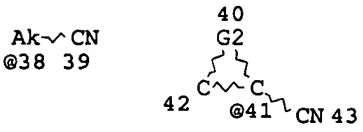
RRT



PRO







VAR G1=S/N/CN/AK/X/38/26/41
REP G2=(1-4) C
NODE ATTRIBUTES:
CONNECT IS E2 RC AT 1
CONNECT IS E2 RC AT 2
CONNECT IS E2 RC AT 3
CONNECT IS E2 RC AT 5
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 37

STEREO ATTRIBUTES: NONE
L8 24 SEA FILE=CASREACT SUB=L5 SSS FUL L6 (38 REACTIONS)

100.0% DONE 2701 VERIFIED 38 HIT RXNS 24 DOCS
SEARCH TIME: 00.00.01

=> d bib abs crd l8 tot

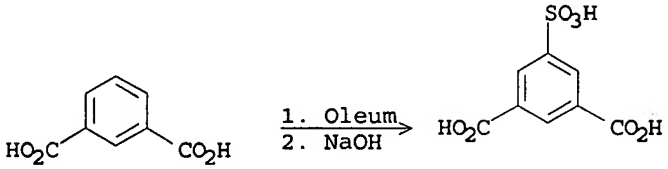
L8 ANSWER 1 OF 24 CASREACT COPYRIGHT 2007 ACS on STN
AN 145:292716 CASREACT
TI Process for preparation of sodium isophthalic acid 5-sulfonate
IN Liu, Xusi; Sui, Fulong
PA Dongying Xuye Chemical Co., Ltd., Peop. Rep. China
SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 5pp.
CODEN: CNXXEV
DT Patent
LA Chinese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN---1821224	A	20060823	CN 2006-10043229	20060320
PRAI	CN 2006-10043229		20060320		

AB The method for preparing sodium isophthalic acid 5-sulfonate comprises sulfonating isophthalic acid with fuming sulfuric acid (molar ratio 1:1.5) at 150-200 °C for 5-10 h, neutralizing with base at 100-130 °C under stirring, centrifuging to obtain the product, recrystg. with hot water (60-100 °C) together with decolorizing agent and

oxidant (e.g. hydrogen peroxide), and recrystg. for a second time. The mother liquid after precipitating and centrifuging is extracted with toluene and acid, then neutralized with base. The yield is above 80%, and the mother liquid is recycled in a close system, and thus both pollution and cost are reduced.

RX(1) OF 1



(step 1)

Na

80%

NOTE: regioselective, fuming sulfuric acid used in stage 1, NaOH, Na2CO3, or NaHCO3 used in stage 2
CON: STAGE(1) 5 - 10 hours, 150 - 220 deg C
STAGE(2) 100 - 130 deg C; 100 deg C -> room temperature

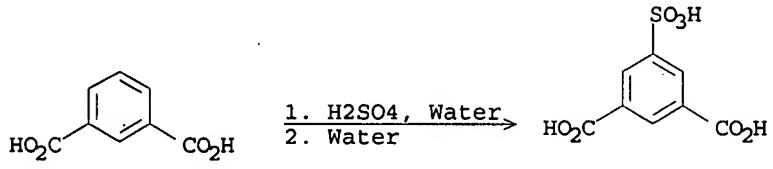
L8 ANSWER 2 OF 24 CASREACT COPYRIGHT 2007 ACS on STN
AN 141:424031 CASREACT
TI Preparation of sulfo-substituted aromatic carboxylic acid alkyl esters and their salts with high esterification yield
IN Ogata, Eiji; Yanase, Norio; Kitahara, Takayuki
PA Konishi Kagaku Kogyo Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP2004331527	A	20041125	2003JP-0126844	20030502

PRAI 2003JP-0126844 20030502

AB Title compds., useful as modifiers for polyesters, are prepared by esterification of sulfo-substituted aromatic carboxylic acids with lower alcs. while precipitating the crystals of the resulting esters, optionally followed by neutralization of the crystals. Thus, sulfonation of isophthalic acid gave 5-sulfoisophthalic acid hydrate, which was refluxed in o-dichlorobenzene to remove the water, esterified with MeOH at from 90° to 30°, and adjusted to pH 7 to give di-Me 5-sodiosulfoisophthalate with 83% overall yield.

RX(1) OF 6

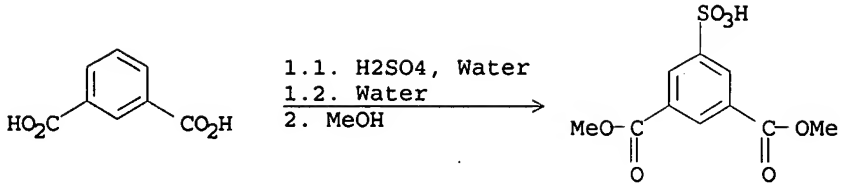


(step 1)

H2O

NOTE: alternative prepn. shown
CON: 2 hours, 190 deg C

RX(5) OF 6 - 2 STEPS



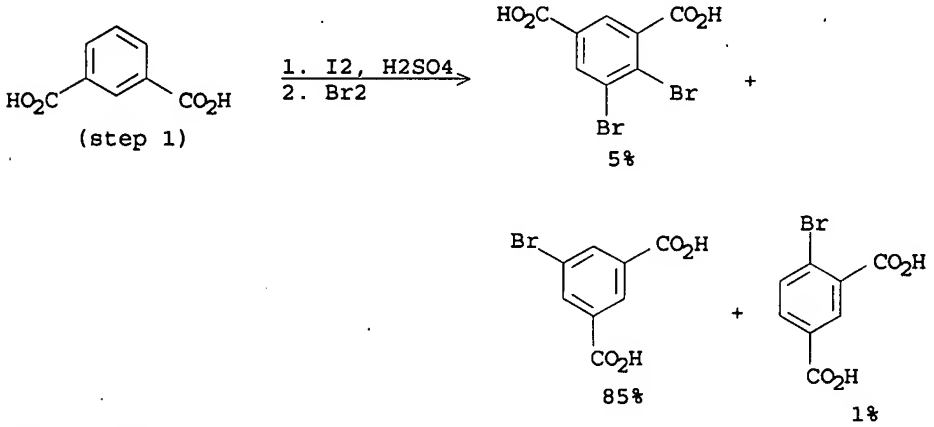
NOTE: 1) alternative prepn. shown
CON: STEP(1.1) 2 hours, 190 deg C
STEP(2.1) 1 hour, 90 deg C; 5 hours, 30 deg C

L8 ANSWER 3 OF 24 CASREACT COPYRIGHT 2007 ACS on STN
AN 141:277358 CASREACT
TI Preparation of high-purity dialkyl 5-bromoisophthalates
IN Fujimoto, Masaki; Noji, Kazuaki
PA Sanko Chemical Industry Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP2004262778	A	20040924	2003JP-0052340	20030228
PRAI 2003JP-0052340		20030228		

AB Title compds. are prepared by cooling alc. solns. containing crude dialkyl 5-bromoisophthalates for crystallization Thus, 5-bromoisophthalic acid (I) was brominated with Br to give a reaction mixture (I 6.2%, 5-bromoisophthalic acid 84.7%, 4-bromoisophthalic acid 0.3%, 4,5-dibromoisophthalic acid 5.2%), which was refluxed with MeOH in the presence of H2SO4, condensed, cooled, kept at room temperature for 3 h, filtered, and washed with MeOH to give di-Me 5-bromoisophthalate with purity 99.1%.

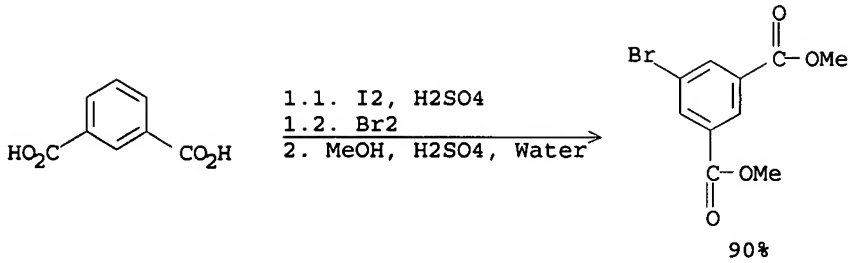
RX(1) OF 5



(step 1)
5%
85%
1%

CON: STAGE(1) 30 - 35 deg C; 30 - 35 deg C -> 60 deg C
STAGE(2) 5 hours, 60 deg C; 24 hours, 60 deg C

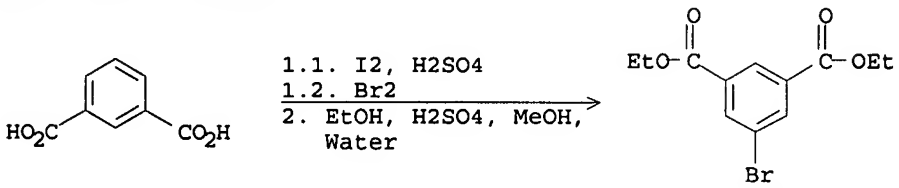
RX(4) OF 5 - 2 STEPS



90%

CON: STEP(1.1) 30 - 35 deg C; 30 - 35 deg C -> 60 deg C
STEP(1.2) 5 hours, 60 deg C; 24 hours, 60 deg C
STEP(2) 24 hours, reflux

RX(5) OF 5 - 2 STEPS

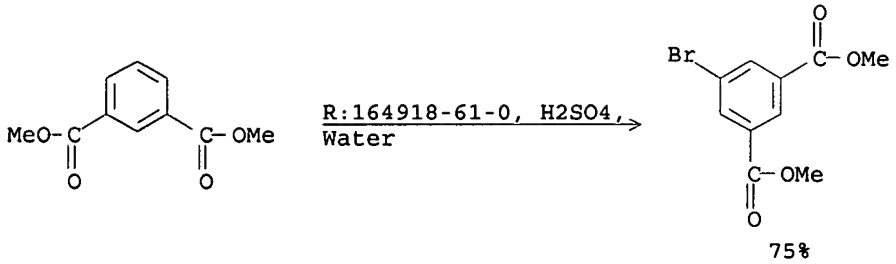


80%

CON: STEP(1.1) 30 - 35 deg C; 30 - 35 deg C -> 60 deg C
STEP(1.2) 5 hours, 60 deg C; 24 hours, 60 deg C
STEP(2) 24 hours, reflux

L8 ANSWER 4 OF 24 CASREACT COPYRIGHT 2007 ACS on STN
AN 140:16533 CASREACT
TI Bromination by means of sodium monobromoisocyanurate (SMBI)
AU Okada, Yukihiro; Yokozawa, Masanori; Akiba, Miwa; Oishi, Kazuhiko; Okawa, Kyoji; Akeboshi, Tomohiro; Kawamura, Yasuo; Inokuma, Seiichi; Nakamura, Yosuke; Nishimura, Jun
CS Department of Chemistry, Gunma University, Kiryu, 376-8515, Japan
SO Organic & Biomolecular Chemistry (2003), 1(14), 2506-2511
CODEN: OBCRAK; ISSN: 1477-0520
PB Royal Society of Chemistry
DT Journal
LA English
AB A variety of aromatic compds. with both activating and deactivating substituents were brominated with sodium monobromoisocyanurate (I) in Et2O, Et2O-MeSO3H, F3CCO2H, or H2SO4. Thus PhNO2 was conveniently brominated in H2SO4, C6H7 was readily monobrominated in Et2O-MeSO3H, and PhOH was selectively brominated at the ortho position under mild conditions in refluxing Et2O. With substituents that are easily protonated, F3CCO2H may be employed as solvent in the reaction with I; in contrast NBS was ineffective in F3CCO2H. This renders I a superior reagent relative to NBS. In addition to aroms., alkenes, ketones and esters were also brominated with I. Di-Et malonate was brominated with I and then subjected to a Bingel reaction with NaH to afford the desired methanofullerene in reasonable yield.

RX(7) OF 47



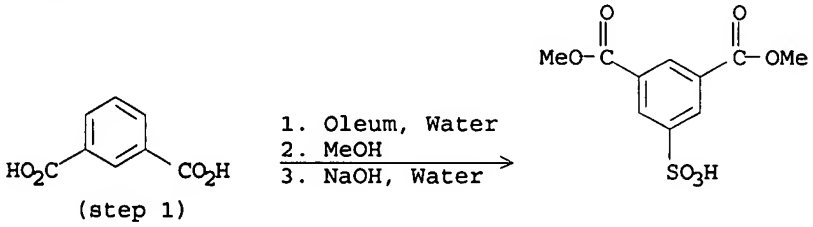
75%

NOTE: regioselective, green chem.-reagent
CON: 12 hours, room temperature -> 40 deg C

RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 5 OF 24 CASREACT COPYRIGHT 2007 ACS on STN
AN 139:118987 CASREACT
TI Synthesis of sodium dimethyl 5-sulfoisophthalate
AU Li, Guo-qiang; Tang, Xu-li; Wen, Li-rong; Yu, Yong-liang
CS Institute of Chemical and Molecular Technology, Qingdao University of Science and Technology, Qingdao, Shandong, 266042, Peop. Rep. China
SO Jingxi Huagong (2003), 20(1), 50-52
CODEN: JIHUFJ; ISSN: 1003-5214
PB Jingxi Huagong Bianjibu
DT Journal
LA Chinese
AB The title compound(sodium di-Me 5-sulfoisophthalate, SIPM) was prepared from isophthalic acid (IPA), using w(SO3) = 30% oleum as sulfonating agent. By orthogonal exptl. design method, the optimum sulfonation reaction conditions were determined:n(IPA):n(SO3) = 1.00:1.15 at 185° for 4.5 h. By HPLC method, the neutralization process was controlled at pH value of 5.0. Yield of SIPM was 85.2% and the purity was w(SIPM) = 99.5%. Specifications of the product conformed with the standard of Du Pont Co.

RX(1) OF 1



(step 1)

85%

NOTE: optimization study
CON: STAGE(1) room temperature -> 185 deg C; 4.5 hours, 185 deg C
STAGE(2) 4 hours, reflux; reflux -> room temperature
STAGE(3) neutralized

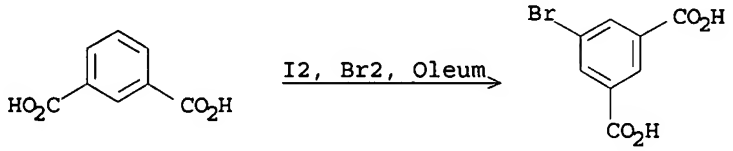
L8 ANSWER 6 OF 24 CASREACT COPYRIGHT 2007 ACS on STN
AN 138:271391 CASREACT
TI Process for the preparation of 5-aminoisophthalic acid by sequential bromination and ammonolysis of isophthalic acid.
IN Gelmont, Mark
PA Bromine Compounds Ltd., Israel

SO Israeli, 15 pp.
CODEN: ISXXAQ
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI IL----118972	A	20000928	1996IL-0118972	19960729
PRAI 1996IL-0118972		19960729		

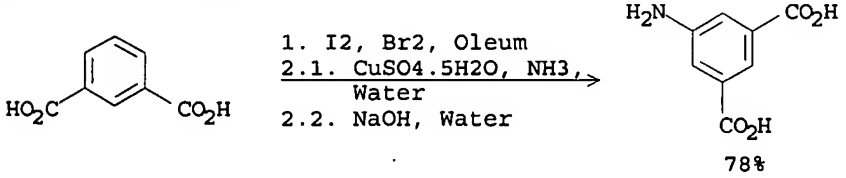
AB 5-Aminoisophthalic acid was prepared by sequential bromination and ammonolysis of isophthalic acid. Thus, isophthalic acid in 65% oleum at 103-106° was treated dropwise with Br2 over 4 h; heating and stirring were continued for 2 h to give a crude precipitate comprising 51% crude 5-bromoisophthalic acid and 49% oleum. This was autoclaved with NH3 and cat. CuSO4.5H2O at 140° for 3 h to give 77% 5-aminoisophthalic acid.

RX(1) OF 3



CON: STAGE(1) room temperature -> 106 deg C; 4 hours; 2 hours

RX(3) OF 3 - 2 STEPS

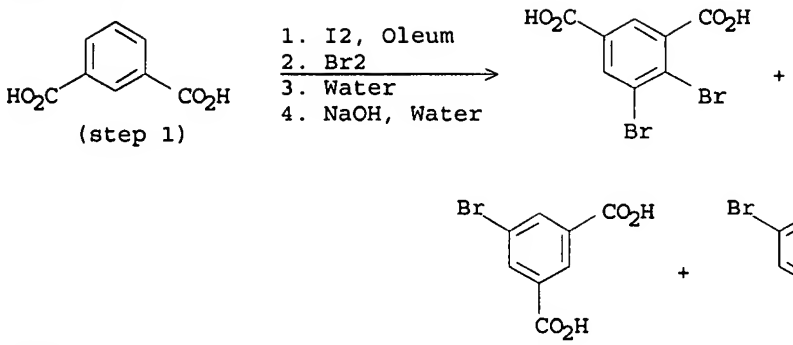


78%

NOTE: 2) optimization study
CON: STEP(1.1) room temperature -> 106 deg C; 4 hours; 2 hours
STEP(2.1) 3.5 hours, room temperature -> 140 deg C; 140 deg C -> 30 deg C

L8 ANSWER 7 OF 24 CASREACT COPYRIGHT 2007 ACS on STN
AN 137:249482 CASREACT
TI A New Route for the Preparation of 5-Hydroxyisophthalic Acid
AU Gelmont, Mark; Oren, Jakob
CS IMI (TAMI) Institute for Research and Development Ltd., Haifa Bay, 26111, Israel
SO Organic Process Research & Development (2002), 6(5), 591-596
CODEN: OPRDFK; ISSN: 1083-6160
PB American Chemical Society
DT Journal
LA English
AB A new, simple and practical, two-stage process for the preparation of 5-hydroxyisophthalic acid (5-HIPA) from isophthalic acid is described. In the first stage, isophthalic acid is brominated by bromine in oleum, in the presence of an iodine catalyst, to give crude 5-bromoisophthalic acid (5-BIPA). In the second stage the crude 5-BIPA is hydrolyzed with aqueous NaOH, in the presence of a copper catalyst, to give crude 5-HIPA, with a purity of ca. 98%. Both stages of the process were optimized. A single crystallization of the crude 5-HIPA from water gives the product in a purity of more than 99%. The overall yield of pure 5-HIPA is 65-70%.

RX(1) OF 4

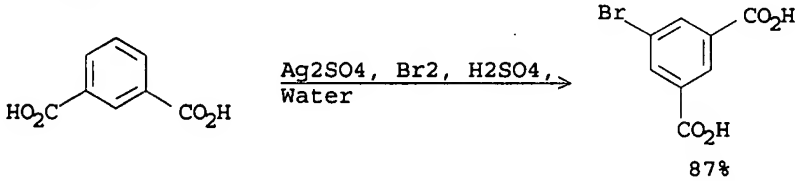


NOTE: regioselective, overall yield 50%, 91% of product was 5-bromoisophthalic acid, 6% combined yield of dibromoisophthalic acid, other products also detected, alternate workups also described, optimization study, optimized on temp., catalyst, amt. of catalyst, amt. of oleum, workup

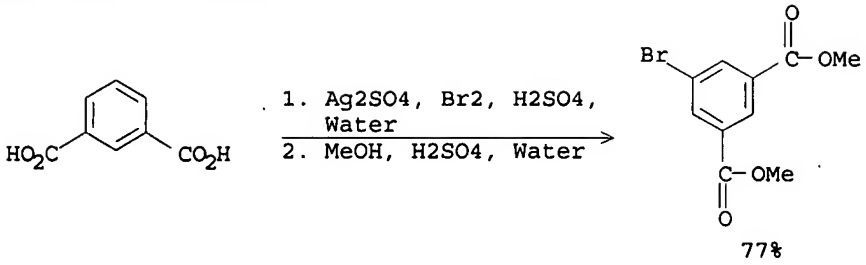
RE.CNT 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 8 OF 24 CASREACT COPYRIGHT 2007 ACS on STN
AN 137:200992 CASREACT
TI A non-rotatory isomerization path in ethene derivatives? Investigation of a stilbenophane and protonated azobenzenophanes ("pseudo-stilbenophanes")
AU Rau, Hermann; Waldner, Isabella
CS FG Physikalische Chemie, Universitaet Hohenheim, Stuttgart, 70593, Germany
SO Physical Chemistry Chemical Physics (2002), 4(10), 1776-1780
CODEN: PPCPFQ; ISSN: 1463-9076
PB Royal Society of Chemistry
DT Journal
LA English
AB A stilbenophane and protonated azobenzenophanes ("pseudo-stilbenes") with four -CH2-S-CH2- bridges in all meta-positions were synthesized. The spectroscopic and photochem. properties were investigated: excited dimer absorption spectra and for the stilbenophane also emission spectra were observed Photochem. reactions could be identified as the [2+2] photocycloaddn. for the stilbenophane; the nature of the photoproducts in the case of pseudo-stilbenes could not be established. Photo-isomerizations could not be observed which gives a neg. answer to the title question.

RX(1) OF 63

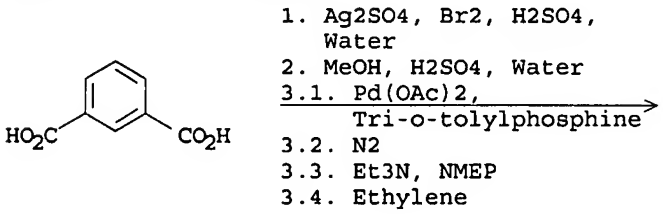


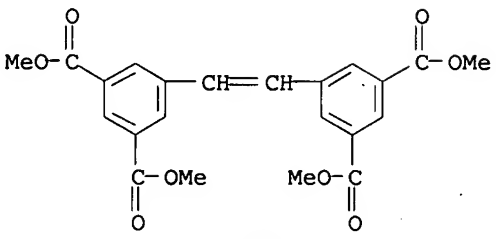
RX(8) OF 63 - 2 STEPS



77%

RX(15) OF 63 - 3 STEPS





22%

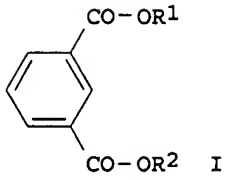
NOTE: 3) Heck reaction

RE.CNT 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 9 OF 24 CASREACT COPYRIGHT 2007 ACS on STN
AN 136:37401 CASREACT
TI Process for the preparation of bromoisophthalic acid or derivatives thereof
IN Nagai, Masaki; Suzuki, Hideo; Hashiba, Isao
PA Nissan Chemical Industries, Ltd., Japan
SO PCT Int. Appl., 15 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO2001094289	A1	20011213	2001WO-JP04532	20010530
	W: CN, KR, US				
	RW: DE, FR, GB, NL				
	EP---1293495	A1	20030319	2001EP-0934410	20010530
	R: DE, FR, GB, NL				
	JP2002060370	A	20020226	2001JP-0167799	20010604
	US2004015010	A1	20040122	2002US-0296500	20021125
	US---6855845	B2	20050215		
PRAI	2000JP-0167511		20000605		

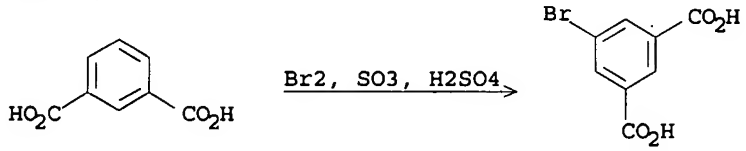
2001WO-JP04532 20010530
OS MARPAT 136:37401
GI



I

AB This document discloses a process for preparing bromoisophthalic acid compds., particularly 5-bromoisophthalic acid compds. and 4,5-dibromoisophthalic acid compds., by brominating an isophthalic acid compound of the general formula I (wherein R1 and R2 are each independently hydrogen or C1-6 alkyl) with bromine in a solvent containing sulfur trioxide. The title compds. are pharmaceutical and agrochem. intermediates and additives for polymers. According to this process, bromoisophthalic acid compds., particularly 5-bromoisophthalic acid compds. and 4,5-dibromoisophthalic acid compds., can be prepared selectively using industrially inexpensive bromine.

RX(2) OF 2

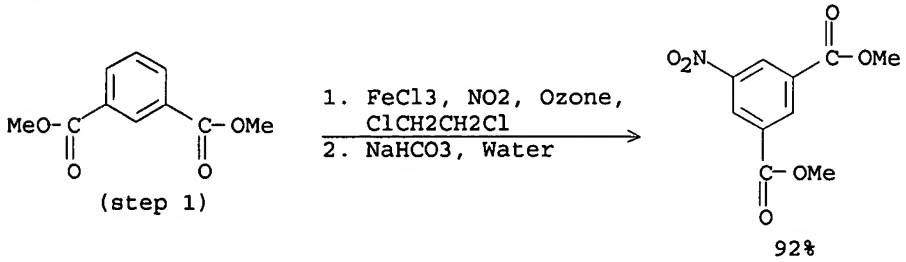


RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 10 OF 24 CASREACT COPYRIGHT 2007 ACS on STN
AN 135:107099 CASREACT
TI Nonacid Nitration of Benzenedicarboxylic and Naphthalenecarboxylic Acid Esters
AU Nose, Masatoshi; Suzuki, Hitomi; Suzuki, Hideo
CS Department of Chemistry School of Science, Kwansei Gakuin University, Nishinomiya, 662-8501, Japan
SO Journal of Organic Chemistry (2001), 66(12), 4356-4360
CODEN: JOCEAH; ISSN: 0022-3263
PB American Chemical Society
DT Journal
LA English
AB When treated with nitrogen dioxide in the presence of ozone and a catalytic amount of iron(III) chloride in inert organic solvent at -10 to +5 °C, benzenedicarboxylic acid diesters underwent smooth nitration to give the corresponding mononitro derivs. in good yield (Kyodai nitration). Naphthalenecarboxylic acid esters and naphthalene-1,8-dicarboxylic acid diester were similarly nitrated in the absence of catalyst to give the expected nitro compds. Different from conventional nitration based on the combined use of concentrated nitric and sulfuric acids, no hydrolytic cleavage of the ester function was observed under these conditions. The isomer distribution has been determined for the nitration of naphthalenecarboxylic acid esters and spectral data were collected for less common nitro derivs. A unique changeover of the orientation mode observed in the Kyodai nitration

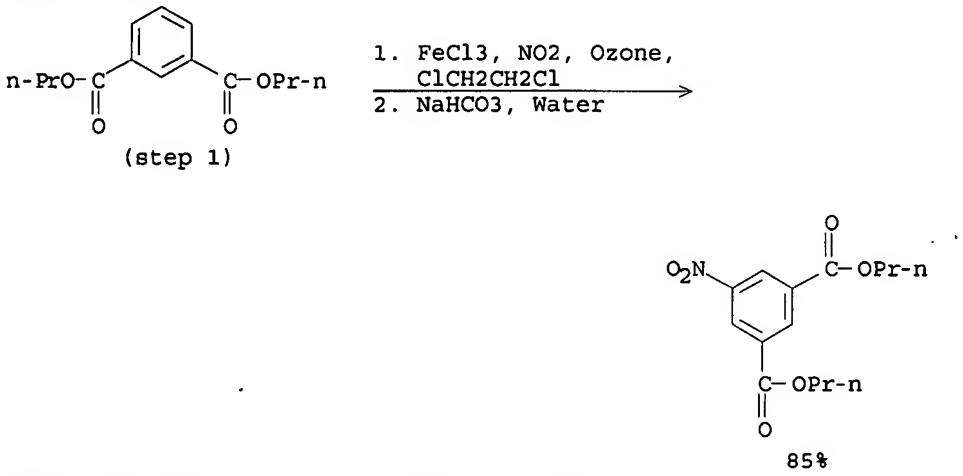
of the diester, from the initial exclusive meta to the final meta/para, has been discussed in terms of the competition between the electrophilic substitution process involving the nitronium ion (NO2+) and the addition-elimination sequence involving the nitrogen trioxide radical (•NO3).

RX(2) OF 7



NOTE: regioselective, optimization study

RX(7) OF 7

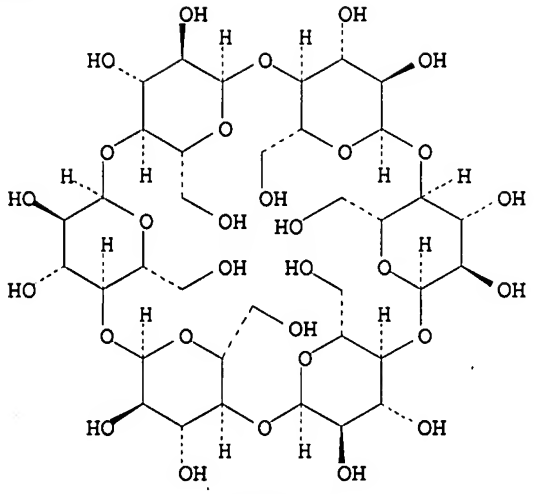


NOTE: regioselective, optimization study

RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

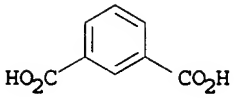
L8 ANSWER 11 OF 24 CASREACT COPYRIGHT 2007 ACS on STN
AN 134:340634 CASREACT
TI Synthesis of fluorescent stilbene and tolan rotaxanes by Suzuki coupling
AU Stanier, Carol A.; O'Connell, Michael J.; Anderson, Harry L.; Clegg, William
CS Department of Chemistry, University of Oxford, Oxford, OX1 3QY, UK
SO Chemical Communications (Cambridge, United Kingdom) (2001), (5), 493-494
CODEN: CHCOFS; ISSN: 1359-7345
PB Royal Society of Chemistry
DT Journal
LA English
AB Highly fluorescent stilbene and tolan cyclodextrin [2]rotaxanes have been synthesized in good yield using aqueous Suzuki coupling, and the crystal structure of one of these rotaxanes has been determined

RX(6) OF 7



(step 1)

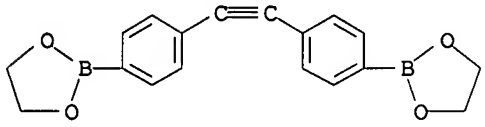
+



+

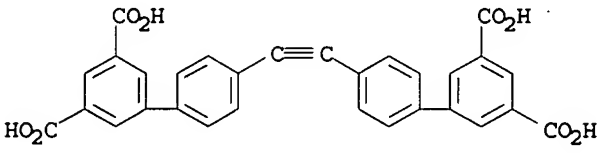
2 Na
(step 1)

RX(6) OF 7



(step 1)

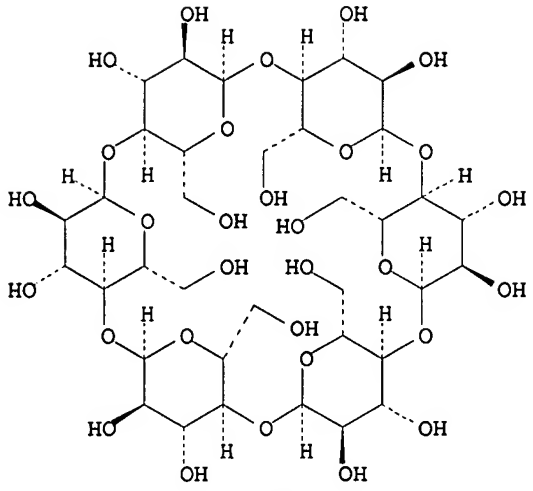
1. Pd(OAc)2, Na2CO3, Water
2. Na2CO3, Water
3. HCl
4. Na2CO3, Water



+

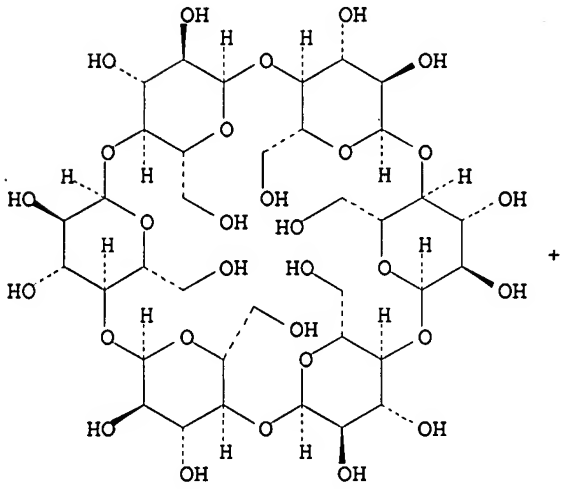
4 Na
50%

RX(6) OF 7



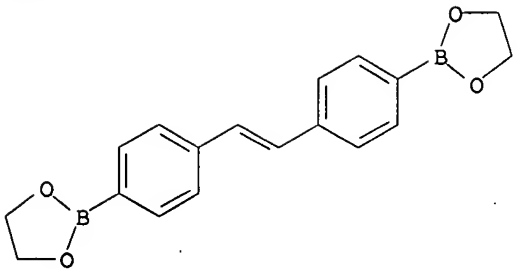
50%

RX(7) OF 7

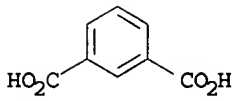


(step 1)

RX(7) OF 7



(step 1)



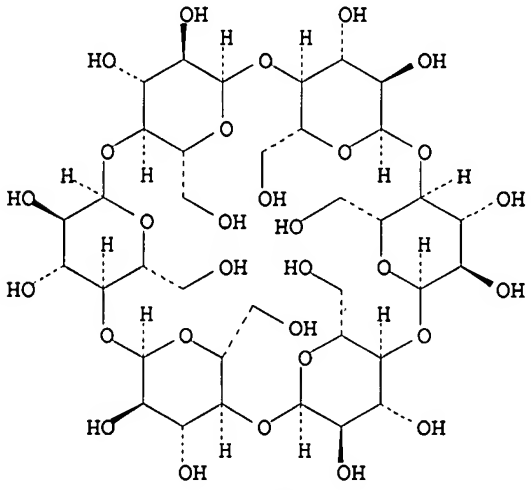
2 Na
(step 1)

1. Pd(OAc)2, Na2CO3, Water
2. Na2CO3, Water
3. HCl
4. Na2CO3, Water

→ MULTI PAGE IMAGE +

338793-49-0
73%

RX(7) OF 7



73%

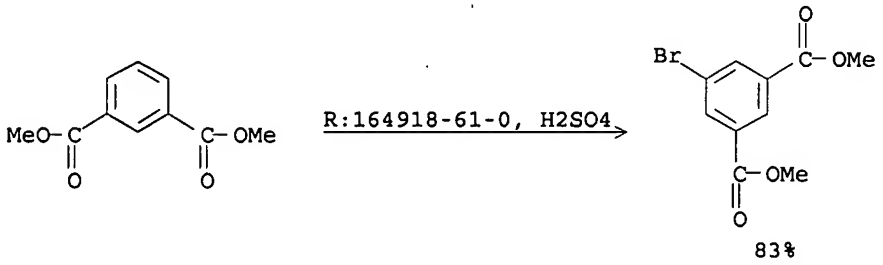
RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 12 OF 24 CASREACT COPYRIGHT 2007 ACS on STN
AN 134:310986 CASREACT
TI Preparation of dialkyl 5-bromoisophthalates by regioselective bromination
IN Suzuki, Hideo; Nagai, Masanori; Myojo, Tomohiro; Hashiba, Isao
PA Nissan Chemical Industries, Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP2001122823	A	20010508	1999JP-0300591	19991022

PRAI 1999JP-0300591 19991022
OS MARPAT 134:310986
AB Title compds. are prepared by bromination of m-R2O2CC6H4CO2R1 (R1, R2 = C1-10 alkyl) by N-bromoisocyanuric acid (I) or its mono-Na or -K salt in strong acids. Di-Me isophthalate was brominated by I mono-Na salt in H2SO4 at 40-45° for 8 h to give 83.9% di-Me 5-bromoisophthalate.

RX(1) OF 1

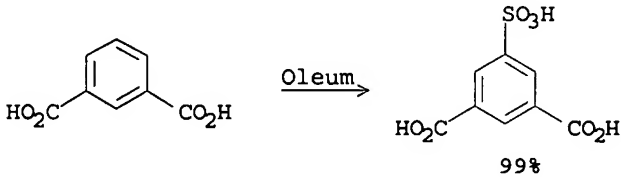


83%

NOTE: regioselective

L8 ANSWER 13 OF 24 CASREACT COPYRIGHT 2007 ACS on STN
AN 133:89275 CASREACT
TI Synthesis of sodium 3,5-dimethoxycarbonyl benzene sulfonate
AU Jiang, Jianping
CS Yangzhou Organic Chemical Plant, Yangzhou, 225003, Peop. Rep. China
SO Huagong Shikan (2000), 14(5), 21-23
CODEN: HUSHFT; ISSN: 1002-154X
PB Huagong Shikan Zazhishe
DT Journal
LA Chinese
AB The title compound, Na 3,5-dimethoxycarbonyl benzene sulfonate (SIPM) used as dye modifying agent for polyester was synthesized with 71.9% yield from isophthalic acid by sulfonation with H2SO4.SO3, esterification with CH3OH, and neutralization with NaOH or Na2CO3. The effects of reacting time, temperature, and ratio of raw materials on sulfonation ratio and esterification ratio were studied. The optimum reacting conditions were: sulfonating temperature 180°, reacting time 7 h, SO3:IPA 1.1:1 (mol ratio), esterifying temperature 60-70°, reacting time 2-4 h, CH3OH:IPA 4-5:1, and neutralizing temperature 15-20°.

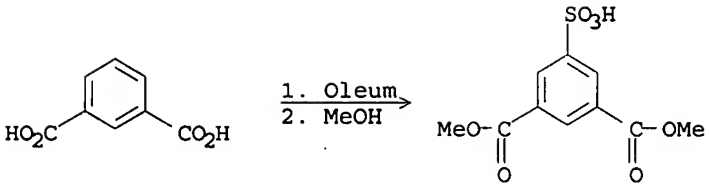
RX(1) OF 6



99%

NOTE: 150.degree., 7 h

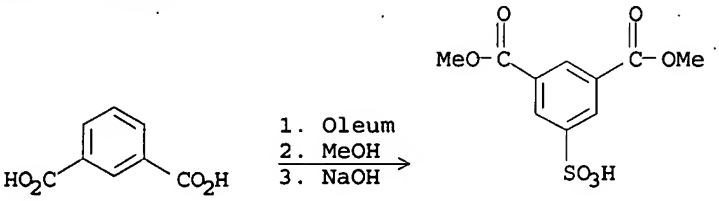
RX(4) OF 6 - 2 STEPS



95%

NOTE: 1) 150.degree., 7 h, 2) 60.degree.-70.degree., 2-4 h

RX(6) OF 6 - 3 STEPS



Na

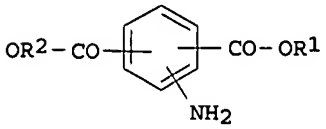
89%

NOTE: 1) 150.degree., 7 h, 2) 60.degree.-70.degree., 2-4 h, 3) 15.degree.-20.degree.

L8 ANSWER 14 OF 24 CASREACT COPYRIGHT 2007 ACS on STN
AN 129:289936 CASREACT
TI Preparation of dialkyl aminophthalates as intermediates for pharmaceuticals and dyes
IN Suzuki, Hideo; Suzuki, Hitomi
PA Nissan Chemical Industries, Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP--10251211	A	19980922	1997JP-0058915	19970313
PRAI 1997JP-0058915	19970313			

OS MARPAT 129:289936
GI

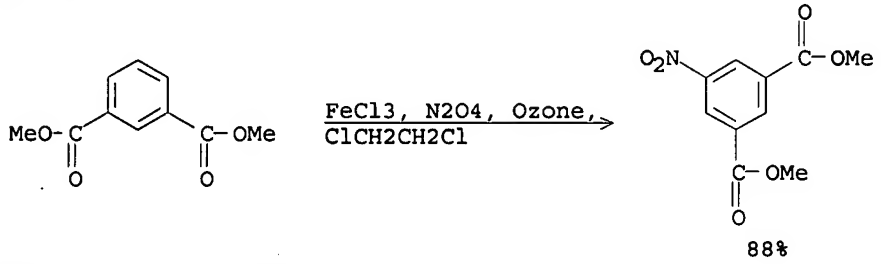


I

AB The title compds. I [R1, R2 = alkyl, cycloalkyl] are prepared by nitration of dialkyl phthalates by nitrogen oxide and ozone, followed by reduction of the nitro compds. Thus, a mixture of ozone and oxygen was introduced into a mixture of di-Me isophthalate 3.88 g, N2O4 4.6 g, and FeCl3 0.01 g in 1,2-dichloroethane 40 g at 5° during 2.5 h to give, after workup,

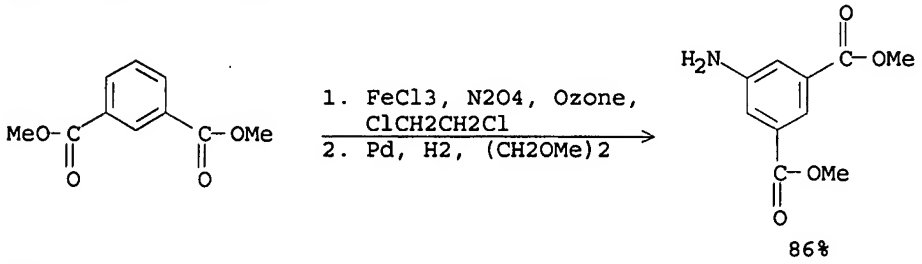
di-Me 5-nitroisophthalate (II) in 88% yield. Hydrogenation of II 4.57 g in 1,2-dimethoxyethane containing 5% Pd/C 4.6 mg under hydrogen (5 kg/cm2) gave di-Me 5-aminoisophthalate in 86% yield.

RX(2) OF 3



NOTE: 2.5 h at 5.degree.

RX(3) OF 3 - 2 STEPS



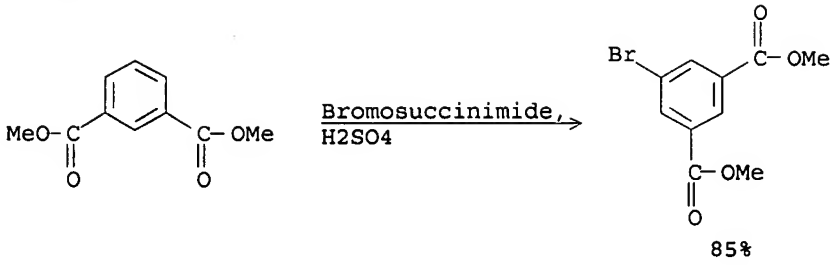
NOTE: 1) 2.5 h at 5.degree.

L8 ANSWER 15 OF 24 CASREACT COPYRIGHT 2007 ACS on STN
AN 128:321458 CASREACT
TI Preparation of dialkyl 5-bromoisophthalates
IN Suzuki, Hideo; Hashiba, Isao
PA Nissan Chemical Industries, Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP--10114712	A	19980506	1996JP-0272065	19961015
	JP---3911732	B2	20070509		

PRAI 1996JP-0272065 19961015
OS MARPAT 128:321458
AB Title compds. are prepared by bromination of 1,3-R2O2CC6H4CO2R1 (R1, R2 = C1-10 alkyl) with N-bromoimides as bromination agents in strong acid solvents. M-C6H4(CO2Me)2 was treated with N-bromosuccinimide in 97% H2SO4 at 40° for 8 h to give 85.6% di-Me 5-bromoisophthalate.

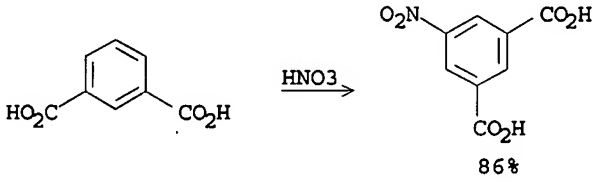
RX(1) OF 1



85%

L8 ANSWER 16 OF 24 CASREACT COPYRIGHT 2007 ACS on STN
AN 125:10318 CASREACT
TI Synthesis of 2,6-dicyano-4-nitroaniline
AU Xie, Yunging; Lian, Yieliang
CS Dep. Environmental Eng., Qingdao Coll. Architecture Eng., Tsingtao, Peop. Rep. China
SO Huaxue Shiji (1996), 18(2), 124-125
CODEN: HUSHDR; ISSN: 0258-3283
PB Huagongbu Huaxue Shiji Keji Qingbao Zhongxinzhan
DT Journal
LA Chinese
AB The title compound was prepared from isophthalic acid by nitration, cyanation, and amination.

RX(1) OF 6

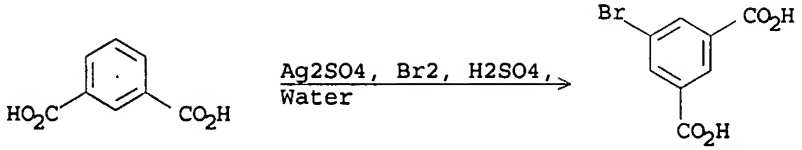


86%

NOTE: 6 H

L8 ANSWER 17 OF 24 CASREACT COPYRIGHT 2007 ACS on STN
AN 123:256091 CASREACT
TI Arranging coordination sites around cyclotriveratrylene
AU Wytko, Jennifer A.; Weiss, Jean
CS lab. d'Electrochim. Chim. Phys.Corps Solide, Univ. Louis Pasteur, Strasbourg, 67000, Fr.
SO Journal of Inclusion Phenomena and Molecular Recognition in Chemistry (1994), 19(1-4), 207-25
CODEN: JIMCEN; ISSN: 0923-0750
PB Kluwer
DT Journal
LA English
AB This article describes the attachment of coordination sites around a rigid matrix: cyclotriveratrylene (CTV). The synthetic approaches leading to these new ligands possessing pyridines and bipyridines as coordinating sites are discussed and full synthetic details are given. One expanded CTV derivative bearing three 3-pyridyl groups has been characterized by X-ray crystallog. and the structure shows that the conformation adopted by the CTV matrix is appropriate for the coordination of transition metals, and inclusion of a range of mols. in the hydrophobic pocket.

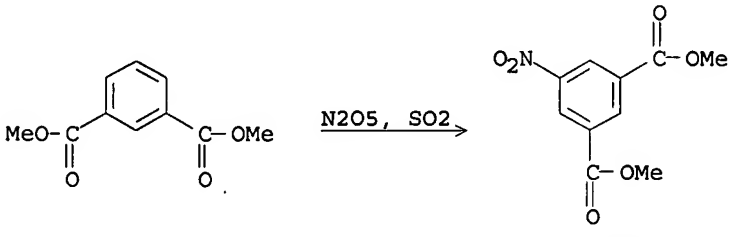
RX(1) OF 95



91%

L8 ANSWER 18 OF 24 CASREACT COPYRIGHT 2007 ACS on STN
AN 120:298430 CASREACT
TI Dinitrogen pentoxide-sulfur dioxide, a new nitration system
AU Bakke, Jan M.; Hegbom, Ingrid
CS Norweg. Inst. Technol., Univ. Trondheim, Trondheim, N-7034, Norway
SO Acta Chemica Scandinavica (1994), 48(2), 181-2
CODEN: ACHSE7; ISSN: 0904-213X
DT Journal
LA English
AB Nitration of pyridine and 2- and 3-methypyridine with N2O5 in SO2 solvent afforded 3-nitropyridine (60%), 2-methyl-5-nitropyridine:2-methyl-3-nitropyridine = 91:9 (69%), and 4-methyl-3-nitropyridine (51%); these reactants were inert under standard HNO3/H2SO4 conditions. N2O5/SO2 was also effective at nitration of isophthalate esters to 5-nitroisophthalate esters.

RX(2) OF 5



90%

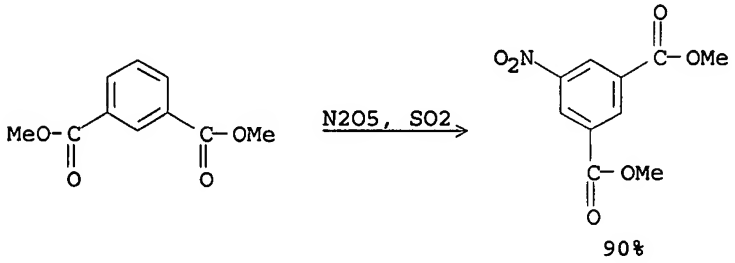
L8 ANSWER 19 OF 24 CASREACT COPYRIGHT 2007 ACS on STN
AN 120:163992 CASREACT
TI Nitration system, and process for nitrating aromatic and hetero aromatic compounds
IN Bakke, Jan; Hegbom, Ingrid
PA Norsk Hydro A/S, Norway
SO PCT Int. Appl., 14 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO---9323352	A1	19931125	1993WO-NO00065	19930423
W: AT, AU, BB, BG, BR, CA, CH, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, LK, LU, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
NO---9300959	A	19931109	1993NO-0000959	19930317
NO----174462	B	19940131		

NO----174462 C 19940511
AU---9340232 A 19931213 1993AU-0040232 19930423
PRAI 1992NO-0001825 19920508
1993NO-0000959 19930317
1993WO-NO00065 19930423

AB The invention relates to a new nitration system, comprising N2O5 dissolved in liquid SO2. The invention also relates to a process for nitrating aromatic and hetero aromatic compds. using the new system. This process is particularly favorable for nitration of aromatic compds. that are unstable under acidic conditions. 2-Methylpyridine was added slowly to a solution of 25 mmol N2O5 in 25 mL SO2 at -78° and the mixture was warmed to -11° in 2 h and stirred for another 2 h, the reaction mixture was poured over ice, the aqueous solution was made basic with saturated NaHCO3 solution and extracted with CH2Cl2 to give 69% 2-methyl-5-nitropyridine, vs. 5% with nitration by HNO3/H2SO4. Also nitrated were quinoline, isoquinoline thiophene derivs. and dialkyl isophthalates.

RX(1) OF 5



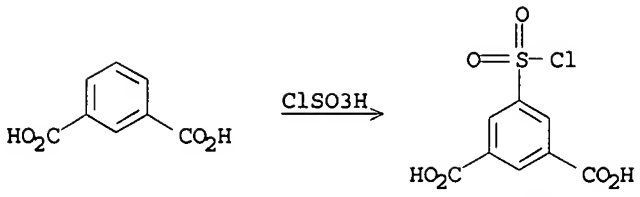
90%

NOTE: -78 to-11.degree.

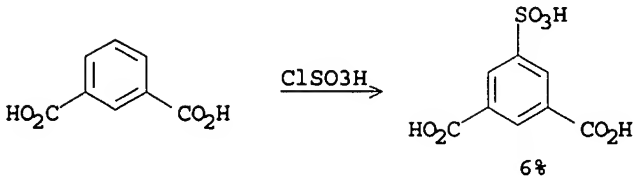
L8 ANSWER 20 OF 24 CASREACT COPYRIGHT 2007 ACS on STN
AN 119:8240 CASREACT
TI Aqueous periodate oxidation of aromatic and aliphatic carboxylic acid disulfides
AU Evans, Brian J.; Doi, Joyce Takahashi; Musker, W. Kenneth
CS Dep. Chem., Univ. California, Davis, CA, 95616, USA
SO Phosphorus, Sulfur and Silicon and the Related Elements (1992), 73(1-4), 5-13
CODEN: PSSLEC; ISSN: 1042-6507
DT Journal
LA English

AB The water-soluble carboxylic acid-functionalized aromatic disulfides, 3,3'-dithiodibenzoic acid and 5,5'-dithiodiisophthalic acid [5,5'-dithiobis(1,3-benzenedicarboxylic acid)] were prepared and their rates of periodate oxidation to the sulfonic acids were determined The reaction is first order in each of the reactants which indicates that the slow step is the initial oxidative cleavage step. These aromatic disulfides are oxidized to the sulfonic acids 4-8 times more slowly than a typical aliphatic disulfide. In all cases, water solubility of the disulfide is of prime importance. The periodate oxidation of two aliphatic carboxylic acid analogs were also examined, however, in these cases, the reactions were multiphasic and intermediate thiosulfinates were observed by 1H NMR along with the sulfonic acids.

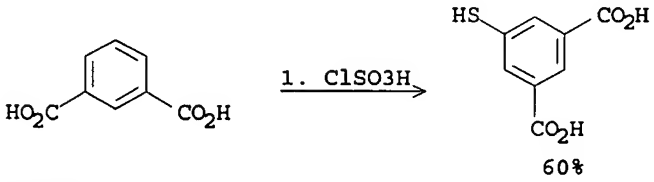
RX(2) OF 7



RX(3) OF 7



RX(7) OF 7 - 2 STEPS



NOTE: 2) ZN/HCL

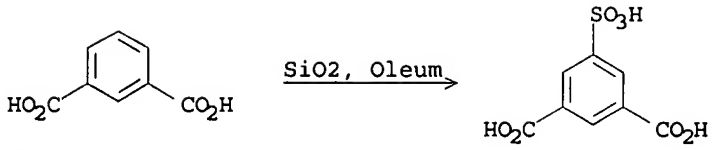
L8 ANSWER 21 OF 24 CASREACT COPYRIGHT 2007 ACS on STN
AN 117:69577 CASREACT
TI Nontoxic sulfonation catalyst for the manufacture of 5-sulfoisophthalic acid
IN Vorel, Milan
PA Czech.
SO Czech., 3 pp.
CODEN: CZXXA9
DT Patent
LA Czech
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI CS----265300	B1	19891013	1988CS-0004400	19880623

PRAI 1988CS-0004400 19880623

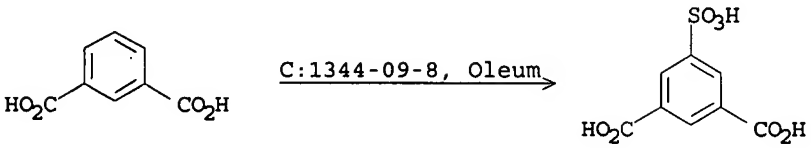
AB In manufacturing the title compound (I) by sulfonation of isophthalic acid with fuming H2SO4, the reaction was accelerated by using 0.00001-0.1, preferably 0.004-0.007 mass % of SiO2, as a nontoxic catalyst. Thus, 80 g SiO2 was added to a mixture of 1225 kg fuming H2SO4 (25% free SO3) and 300 kg isophthalic acid, and the whole was stirred and heated for 1 h at 190°. The mixture was cooled to 160°, mixed with 850 L of combined mother liquor and washings from a previous conversion of I to I-Na salt, and the whole cooled to 25° to give 589 g product containing 88% I.

RX(1) OF 2



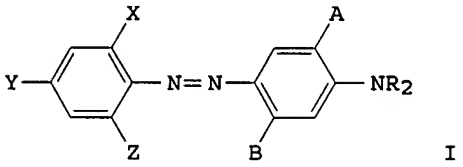
NOTE: nontoxic catalyst

RX(2) OF 2



NOTE: nontoxic catalyst

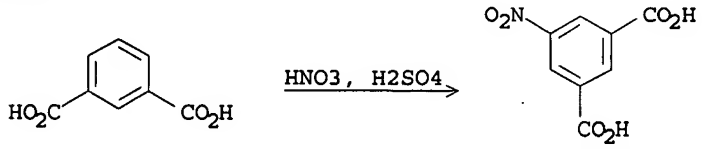
L8 ANSWER 22 OF 24 CASREACT COPYRIGHT 2007 ACS on STN
AN 106:157944 CASREACT
TI Synthesis and spectral characterization of blue azobenzene dyes
AU Thiel, W.; Mayer, R.; Jauer, E. A.; Modrow, H.; Dost, H.
CS Sekt. Chem., Tech. Univ. Dresden, Dresden, Ger. Dem. Rep.
SO Journal fuer Praktische Chemie (Leipzig) (1986), 328(4), 497-514
CODEN: JPCEAO; ISSN: 0021-8383
DT Journal
LA German
GI



I

AB Fifty-three donor-acceptor-substituted azo dyes (I, A = H, NHAc, NHCOEt, NHBz, NHCOBu; B = H, OMe, R = Me, Et, Pr, CH2CH2OH, CH2CH2OAc; X = NO2, CO2Et, COSEt, CN, Br; Y = Cl, Br, I, CN, NO2; Z = Cl, Br, I, CONH2, SO2Me, CN) were prepared by diazo coupling or halogen-CN exchange. The preparation of the precursor amines and couplers was also described. I have blue shades on polyester fibers.

RX(4) OF 61



75%

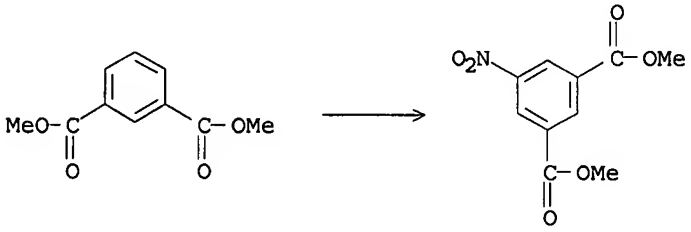
L8 ANSWER 23 OF 24 CASREACT COPYRIGHT 2007 ACS on STN
AN 105:114750 CASREACT

TI Dimethyl 5-nitroisophtholate
IN Lixandru, Tatiana; Saidac, Serban Gheorghe; Pastravanu, Mariana; Vasiliu Silvia; Mazilu, Ioan; Wagner, Luminita Eugenia
PA Combinatul Chimic, Giurgiu, Rom.
SO Rom., 2 pp.
CODEN: RUXXA3
DT Patent
LA Romanian
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
RO-----88168	B1	19851230	1983RO-0112310	19831012

PRAI 1983RO-0112310 19831012
AB Di-Me isophthalate is nitrated with a mixture of H2SO4 (d. 1.84) and HNO3 (d. 1.5) at 15-20°. The mixture is heated to 40°, to give the title compound in 94-96% yield at 95-99% purity. The product is a dye intermediate.

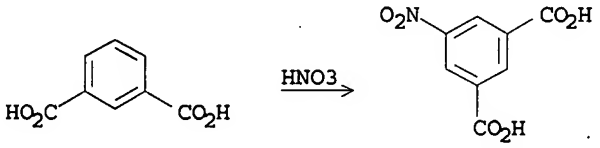
RX(1) OF 1



L8 ANSWER 24 OF 24 CASREACT COPYRIGHT 2007 ACS on STN
AN 40:37261 CASREACT
TI The synthesis of potential antimalarials. Some substituted N-phenylsulfonamides
AU Senear, A. E.; Rapport, M. M.; Mead, J. F.; Maynard, J. T.; Koepfli, J. B.
CS Calif. Inst. of Technol., Pasadena
SO Journal of Organic Chemistry (1946), 11, 378-83
CODEN: JOCEAH; ISSN: 0022-3263
DT Journal
LA Unavailable
AB Some substituted N-phenylsulfonamides of the formula p-RC6H4SO2NHC6H2R'R''R'''(3,4,5) (I) are synthesized to be tested as antimalarials. When 28 g. 3,5-(NO2)2C6H3NH2 (II) in 200 cc. pyridine is treated with 55 g. p-AcHNC6H4SO2Cl (III), added in small portions with cooling and stirring, the mixture kept at room temperature for 1 h., and then heated on a steam bath for 15 min., 93% N4-acetyl-N1-(3,5-dinitrophenyl)sulfanilamide (IV), m. 280-1° (decomposition), is obtained. Saponification of the Ac group in IV by refluxing 55 g. with 750 cc. EtOH and 220 cc. concentrated HCl for 2 h., gives 90% N1-(3,5-dinitrophenyl)sulfanilamide (I, R = NH2, R', R''' = NO2, R'' = H) (SN 3863), crystals from EtOH, m. 214-15°. Reduction of 3,5-Br2C6H3NO2 at 50° and 50 lb. in the presence of Raney Ni gives 86% 3,5-Br2C6H3NH2 (V), m. 47.5-50.5°. V and III give 93% N4-acetyl-N1-(3,5-dibromophenyl)sulfanilamide which, when saponified, gives N1-(3,5-dibromophenyl)sulfanilamide (I, R = NH2, R', R''' = Br, R'' = H) (SN 187), m. 154-5°. Catalytic reduction of the Ac derivative of 2,6-dibromo-4-nitroaniline, prepared in 96% yield according to Mohlau and Uhlmann (Ann. 289, 94(1896)) gives 64% 2,6-dibromo-4-aminoacetanilide, m. 246.5-8.5°, which, when coupled with III, gives 81% N4-acetyl-N1-(3,5-dibromo-4-acetamidophenyl)sulfanilamide (VI), m. 236-8°. Saponification of VI gives 76% N1 -(3,5-dibromophenyl-4-acetamidophenyl)sulfanilamide, m. 210-13°. 2,6-Dibromo-p-

phenylenediamine and III give N4-acetyl- N1-(3,5-dibromo-4-aminophenyl)sulfanilamide, m. 232-3.5°, which when saponified by refluxing with EtOH-HCl for 1 h. gives 85% N1-(3,5-dibromo-4-aminophenyl)sulfanilamide (SN 3864), m. 176-7°. When 44.8 g. p-Cl6H4NO2, 40 cc. NHMe2, and 200 cc. EtOH are heated for 4 h. at 160°, 88% p-O2NC6H4NMe2 (VII), m. 163-6°, is obtained. Bromination of VII gives 30% N-methyl-2,6-dibromo-4-nitroaniline, yellow crystals, m. 111-13°, which, when reduced, gives 54% N-methyl-2,6-dibromo-p-phenylenediamine (VIII), m. 103-4°, VIII and III give 92% N4-acetyl-N1-(3,5-dibromo-4-methylaminophenyl)sulfanilamide m. 220-1.5°, which, when saponified, gives 80% N1-(3,5-dibromo-4-methylaminophenyl)sulfanilamide (I, R = NH2, R', R''' = Br, R'' = NHMe) (SN 3865), m. 147-8.5°. 3,5-Dibromo-4-iodo-1-nitrobenzene (IX), prepared in the same way as 3,4,5-triiodo-1-nitrobenzene (cf. Niemann and Redemann, C.A. 35, 5475.2) in 75% yield, m. 150.5-2.5°. When 40.7 g. IX and 15 cc. NHMe2 are heated in 80 cc. BuOH in a sealed tube at 120-30° for 7 h., 85% 3,5-dibromo-4-dimethylamino-1-nitrobenzene, golden plates, m. 102-3.5°, is formed which, when catalytically reduced, gives 100% 3,5-dibromo-4-dimethylaminoaniline (X). Because X is very unstable, it is immediately coupled with III to give 95% N4-acetyl-N1-(3,5-dibromo-4-dimethylaminophenyl)sulfanilamide, m. 252-3°; Ac-free analog (I, R = NH2, R', R''' = Br, R'' = NMe2) (SN 3866), 79% yield, platelets from EtOH, m. 194.5-6°. m-NCC6H4NH2 and p-O2NC6H4SO2Cl (XI) give 77% 3'-cyano-4-nitrobenzenesulfonanilide (XII), prisms from AcOH, m. 198.5-9.5°. Reduction of XII with Fe and HCl on a steam bath for 6 h. gives 90% N1-(3-cyanophenyl)sulfanilamide (I, R = NH2, R' = CN, R'', R''' = H) (SN 6947), m. 191-2°. 5-Nitroisophthalic acid, m. 254-8°, is prepared in 70-5% yield by heating 120 g. isophthalic acid with 600 cc. fuming HNO3 (d. 1.6) for 8 h. When an intimate mixture of 10 g. 5-nitroisophthalamide and 13 g. P2O5 is heated for 8 h. at 240-50°, 46% 3,5-(NC)2C6H3NO2, yellow prisms, m. 203.5-5.5°, is obtained which, on reduction with SnCl2 in HCl, gives 41% 3,5-(NC)2C6H3NH2 (XIII), needles, m. 192-3°. XIII and XI give 91% 3',5'-dicyano-4-nitrobenzenesulfonanilide, m. above 300°, which, on reduction with Fe and HCl, gives 76% N1-(3,5-dicyanophenyl)sulfanilamide (I, R = NH2, R', R''' = CN, R'' = H) (SN 6946), greenish yellow prisms, m. 227.5-8.5°. When 20 g. V is reacted with 19.6 g. p-NCC6H4SO2Cl in pyridine, 93% 4-cyano-3',5'-dibromobenzenesulfonanilide (XIV), plates or flat prisms, m. 196.5-7.5°, is obtained. Catalytic reduction of 37.5 g. XIV in 920 cc. absolute EtOH containing 0.112 mol. HCl with 3 g. PtO2 at 1 atmospheric for 5 h. gives 30.4 g. 4-aminomethyl-3',5'-dibromobenzenesulfonanilide-HCl (I, R = CH2NH2, R', R''' = Br, R'' = H) (SN 8828), crystallizing with 1 mol. H2O, large flat prisms, m. 273-4° (decomposition); free base, prisms, m. 214.5-15.5°. All m.ps. are corrected

RX(1) OF 1



75%

NOTE: Classification: C-Nitration; Regioselective; # Conditions: fuming HNO3; heat 8h

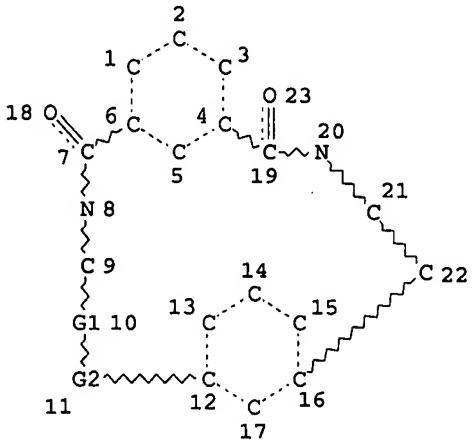
=> d his

(FILE 'HOME' ENTERED AT 14:21:21 ON 07 JUN 2007)

FILE 'CASREACT' ENTERED AT 14:21:33 ON 07 JUN 2007

```
L1              STR
L2           45 L1
L3              STR L1
L4           23 L3
L5          352 L3 FULL
L6              STR L3
L7            1 L6 SAM SUB=L5
L8           24 L6 FULL SUB=L5

     FILE 'STNGUIDE' ENTERED AT 14:29:38 ON 07 JUN 2007

     FILE 'CASREACT' ENTERED AT 14:32:10 ON 07 JUN 2007

=>
```

```
=> b reg
FILE 'REGISTRY' ENTERED AT 15:26:49 ON 07 JUN 2007
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2007 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES:    6 JUN 2007  HIGHEST RN 936692-95-4
DICTIONARY FILE UPDATES:   6 JUN 2007  HIGHEST RN 936692-95-4

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH December 2, 2006

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document.  For information
on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=> d que sta l10
L9                STR
```




```
REP G1=(1-20) C
VAR G2=O/S
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  23

STEREO ATTRIBUTES: NONE
L10           35 SEA FILE=REGISTRY SSS FUL L9

100.0% PROCESSED   25388 ITERATIONS                    35 ANSWERS
SEARCH TIME: 00.00.01


=> b hcap
```

FILE 'HCAPLUS' ENTERED AT 15:26:59 ON 07 JUN 2007
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 7 Jun 2007 VOL 146 ISS 24
FILE LAST UPDATED: 6 Jun 2007 (20070606/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

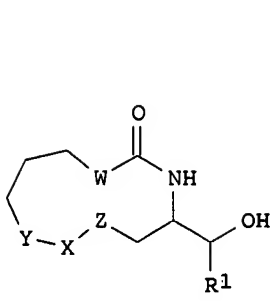
This file contains CAS Registry Numbers for easy and accurate substance identification.

=> => d bib abs hitstr retable 3 5

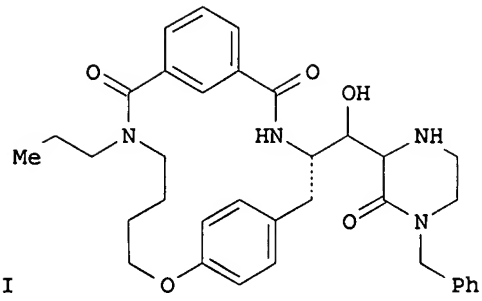
L11 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:117097 HCAPLUS
DN 144:212810
TI Preparation of macrocyclic β-secretase inhibitors
IN Stamford, Andrew W.; Huang, Ying; Li, Guoqing; Strickland, Corey O.; Voigt, Johannes H.
PA Schering Corporation, USA
SO PCT Int. Appl., 61 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO2006014944	A1	20060209	2005WO-US26468	20050726
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	CA---2575340	A1	20060209	2005CA-2575340	20050726
	US2006040948	A1	20060223	2005US-0189346	20050726
	EP---1781644	A1	20070509	2005EP-0776414	20050726
	R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, MK, YU				
PRAI	2004US-591899P	P	20040728		
	2005WO-US26468	W	20050726		

OS CASREACT 144:212810; MARPAT 144:212810
GI



I



II

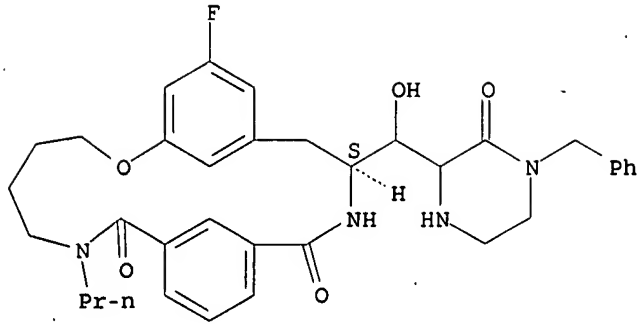
AB Macrocyclic lactams, such as I [R1 = nitrogen containing heterocyclyl, such as piperazinyl; W = heterocyclene or N(R5)C(O)W1, R5 = H, alkyl, cycloalkyl, aryl, heteroaryl, W1 = arylene, heteroarylene, heterocyclene, cycloalkylene; X = O, S, NH, C(R5); Y = (CH2)n, n = 0-3; Z = arylene, heteroarylene, heterocyclene, cycloalkylene] were prepared for use in pharmaceutical compns. as β-secretase inhibitors useful for the treatment of cognitive or neurodegenerative diseases, such as Alzheimer's disease. These macrocyclic lactams were also claimed for use in combination with other therapeutic agents selected from HMG-CoA reductase inhibitors, γ-secretase inhibitors, non-steroidal anti-inflammatory agents, N-methyl-D-aspartate receptor antagonists, cholinesterase inhibitors and anti-amyloid antibodies. The cholinesterase inhibitors, wherein said cholinesterase inhibitor is acetylcholinesterase or butyrylchlolinesterase, can be selected from the group consisting of tacrine, donepezil, rivastigmine, galantamine, pyridostigmine and neostigmine. The nonsteroid antiinflammatory agents can be selected from diclofenac, diflunisal, etodolac, flurbiprofen, ibuprofen, indomethacin, ketoprofen, ketorolac, nabumetone, naproxen, oxaprozin, piroxicam, sulindac, tolmetin, celecoxib or rofecoxib. The HMG-CoA reductase inhibitors can be selected from atorvastatin, lovastatin, simvastatin, pravastatin, fluvastatin or rosuvastatin. The N-methyl-D-aspartate receptor antagonist can be memantine. Thus, macrocyclic lactam II was prepared was prepared via multistep synthetic sequence starting from Cl(CH2)4OH, Me(CH2)2NH2, MeOCOC6H4-3-CO2H, L-tyrosine Me ester and piperazinone. The prepared macrocyclic lactams were assayed for β-secretase inhibitory activity.

IT **875762-75-7P**
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of macrocyclic β-secretase inhibitors for the treatment of cognitive or neurodegenerative diseases and for use in combination with other therapeutic agents)

RN 875762-75-7 HCAPLUS

CN 11-Oxa-3,16-diazatricyclo[16.3.1.16,10]tricosa-1(22),6,8,10(23),18,20-hexaene-2,17-dione, 8-fluoro-4-[hydroxy[3-oxo-4-(phenylmethyl)-2-piperazinyl]methyl]-16-propyl-, (4S)- (9CI) (CA INDEX NAME)

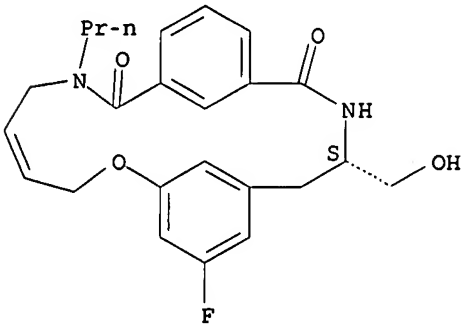
Absolute stereochemistry.



IT **875762-94-0P 875762-96-2P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of macrocyclic β-secretase inhibitors for the treatment of cognitive or neurodegenerative diseases and for use in combination with other therapeutic agents)

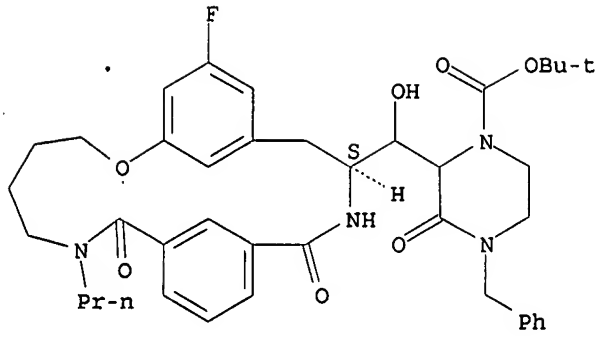
RN 875762-94-0 HCAPLUS
CN 11-Oxa-3,16-diazatricyclo[16.3.1.16,10]tricosa-1(22),6,8,10(23),13,18,20-heptaene-2,17-dione, 8-fluoro-4-(hydroxymethyl)-16-propyl-, (4S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.



RN 875762-96-2 HCAPLUS
CN 1-Piperazinecarboxylic acid, 2-[[(4S)-8-fluoro-2,17-dioxo-16-propyl-11-oxa-3,16-diazatricyclo[16.3.1.16,10]tricosa-1(22),6,8,10(23),18,20-hexaen-4-yl]hydroxymethyl]-3-oxo-4-(phenylmethyl)-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



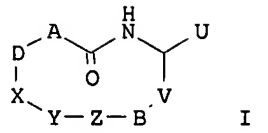
RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Pulley, S	2002			WO----02100399 A	HCAPLUS
Pulley, S	2002			WO----02100856 A	HCAPLUS

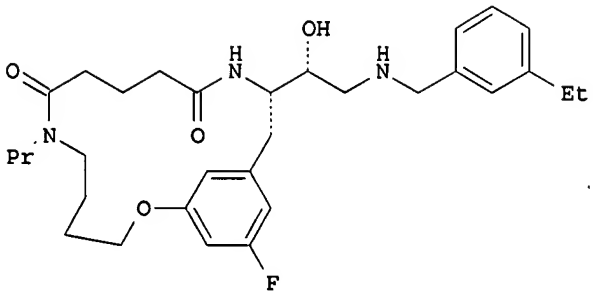
L11 ANSWER 5 OF 5 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2002:964186 HCAPLUS
DN 138:24959
TI Preparation of macrocycles useful in the treatment of Alzheimer's disease
IN Pulley, Shon R.; Beck, James P.; Tenbrink, Ruth E.; Jacobs, Jon S.
PA Elan Pharmaceuticals, Inc., USA; Pharmacia & Upjohn Company
SO PCT Int. Appl., 173 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO2002100399	A1	20021219	2002WO-US18719	20020612
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	CA---2450167	A1	20021219	2002CA-2450167	20020612
	AU2002315098	A1	20021223	2002AU-0315098	20020612
	EP---1395257	A1	20040310	2002EP-0742038	20020612
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	BR2002010391	A	20040615	2002BR-0010391	20020612
	JP2005505506	T	20050224	2003JP-0503220	20020612
	US2003236240	A1	20031225	2002US-0170331	20020613
	US---7067507	B2	20060627		
	US2006003978	A1	20060105	2005US-0208382	20050819
PRAI	2001US-297505P	P	20010612		
	2001US-333082P	P	20011119		
	2002WO-US18719	W	20020612		
	2002US-0170331	A3	20020613		

OS MARPAT 138:24959
GI



I



II

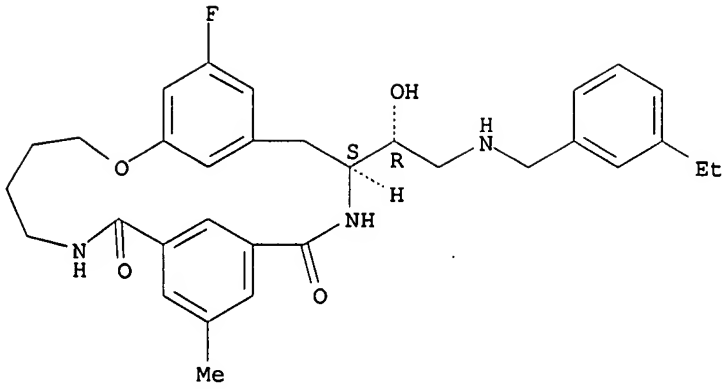
AB Macrocycles I [U is (un)substituted 1,3-dihydroxypropyl, 1-hydroxy-2-aminoethyl, oxiranyl, or 2-oxo-1,3-dioxolan-4-yl; V is (CH2)0-6; A, B, Y are (un)substituted alkylene or alkenylene or rings of defined structure; D is CH2, CO, or SO2; X is absent, O, or an imino group; Z is absent, O, S, an imino group, CO, O2C, CO2, NHCO, or CONH] were prepared for treating Alzheimer's and similar diseases characterized by the deposition of Aβ peptide in a mammal. Thus, macrocycle II was prepared by a multistep sequence involving reaction of 1-(allyloxy)-5-fluorobenzene with 2-(2,2-dimethyl[1,3]dioxolan-4-yl)aziridine-1-carboxylic acid tert-Bu ester.

IT **477954-35-1P 477954-37-3P 477954-39-5P**
477954-41-9P 477954-43-1P 477954-44-2P
477954-46-4P 477954-48-6P 477954-52-2P
477954-55-5P 477954-56-6P 477954-57-7P
477954-58-8P 477954-60-2P 477954-61-3P
477954-62-4P 477954-64-6P 477954-66-8P
477954-68-0P 477954-69-1P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of macrocycles useful in treatment of Alzheimer's disease)

RN 477954-35-1 HCAPLUS

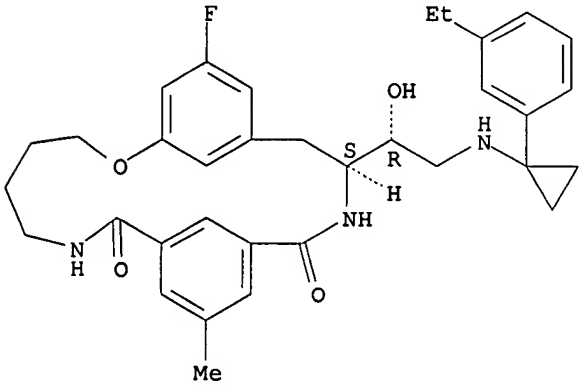
CN 11-Oxa-3,16-diazatricyclo[16.3.1.16,10]tricosa-1(22),6,8,10(23),18,20-hexaene-2,17-dione, 4-[(1R)-2-[[(3-ethylphenyl)methyl]amino]-1-hydroxyethyl]-8-fluoro-20-methyl-, (4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



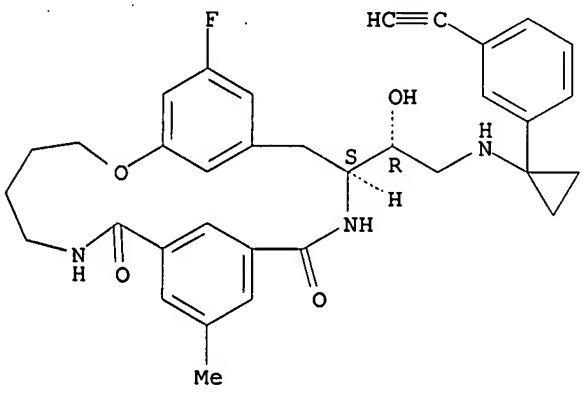
RN 477954-37-3 HCAPLUS
CN 11-Oxa-3,16-diazatricyclo[16.3.1.16,10]tricosa-1(22),6,8,10(23),18,20-hexaene-2,17-dione, 4-[(1R)-2-[[1-(3-ethylphenyl)cyclopropyl]amino]-1-hydroxyethyl]-8-fluoro-20-methyl-, (4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



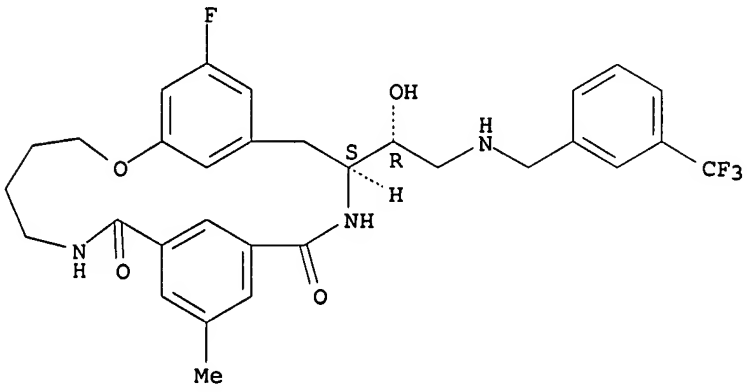
RN 477954-39-5 HCAPLUS
CN 11-Oxa-3,16-diazatricyclo[16.3.1.16,10]tricosa-1(22),6,8,10(23),18,20-hexaene-2,17-dione, 4-[(1R)-2-[[1-(3-ethynylphenyl)cyclopropyl]amino]-1-hydroxyethyl]-8-fluoro-20-methyl-, (4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



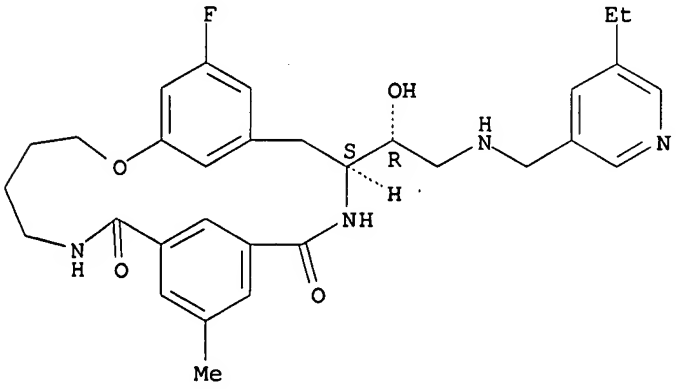
RN 477954-41-9 HCAPLUS
CN 11-Oxa-3,16-diazatricyclo[16.3.1.16,10]tricosa-1(22),6,8,10(23),18,20-hexaene-2,17-dione, 8-fluoro-4-[(1R)-1-hydroxy-2-[[[3-(trifluoromethyl)phenyl]methyl]amino]ethyl]-20-methyl-, (4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



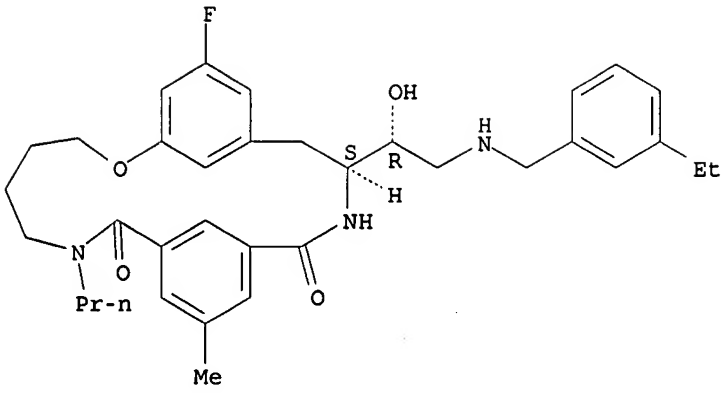
RN 477954-43-1 HCAPLUS
CN 11-Oxa-3,16-diazatricyclo[16.3.1.16,10]tricosa-1(22),6,8,10(23),18,20-hexaene-2,17-dione, 4-[(1R)-2-[[(5-ethyl-3-pyridinyl)methyl]amino]-1-hydroxyethyl]-8-fluoro-20-methyl-, (4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



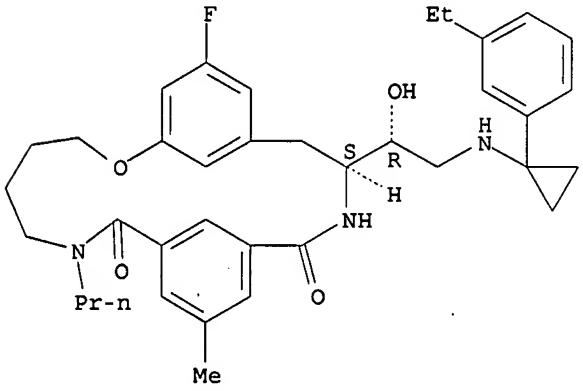
RN 477954-44-2 HCAPLUS
CN 11-Oxa-3,16-diazatricyclo[16.3.1.16,10]tricosa-1(22),6,8,10(23),18,20-hexaene-2,17-dione, 4-[(1R)-2-[[(3-ethylphenyl)methyl]amino]-1-hydroxyethyl]-8-fluoro-20-methyl-16-propyl-, (4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



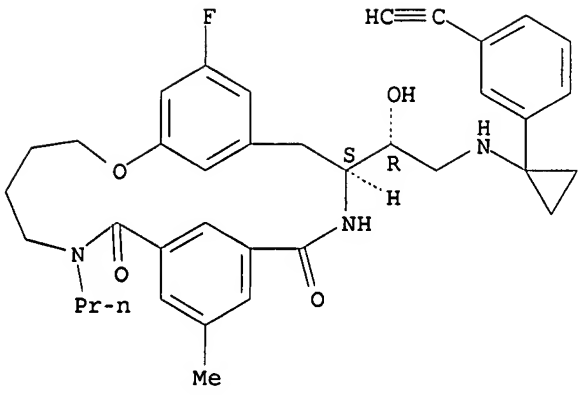
RN 477954-46-4 HCAPLUS
CN 11-Oxa-3,16-diazatricyclo[16.3.1.16,10]tricosa-1(22),6,8,10(23),18,20-hexaene-2,17-dione, 4-[(1R)-2-[[1-(3-ethylphenyl)cyclopropyl]amino]-1-hydroxyethyl]-8-fluoro-20-methyl-16-propyl-, (4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



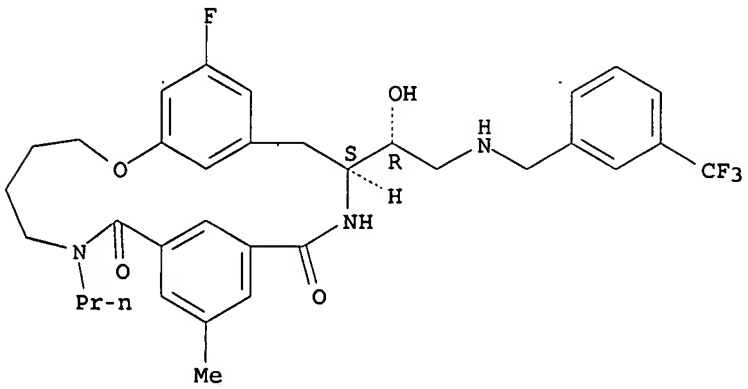
RN 477954-48-6 HCAPLUS
CN 11-Oxa-3,16-diazatricyclo[16.3.1.16,10]tricosa-1(22),6,8,10(23),18,20-hexaene-2,17-dione, 4-[(1R)-2-[[1-(3-ethynylphenyl)cyclopropyl]amino]-1-hydroxyethyl]-8-fluoro-20-methyl-16-propyl-, (4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



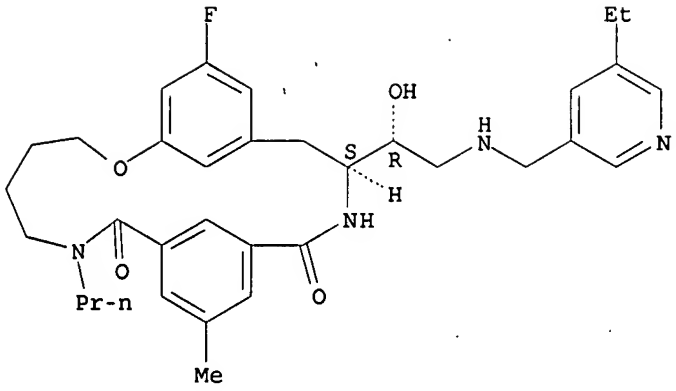
RN 477954-52-2 HCAPLUS
CN 11-Oxa-3,16-diazatricyclo[16.3.1.16,10]tricosa-1(22),6,8,10(23),18,20-hexaene-2,17-dione, 8-fluoro-4-[(1R)-1-hydroxy-2-[[[3-(trifluoromethyl)phenyl]methyl]amino]ethyl]-20-methyl-16-propyl-, (4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



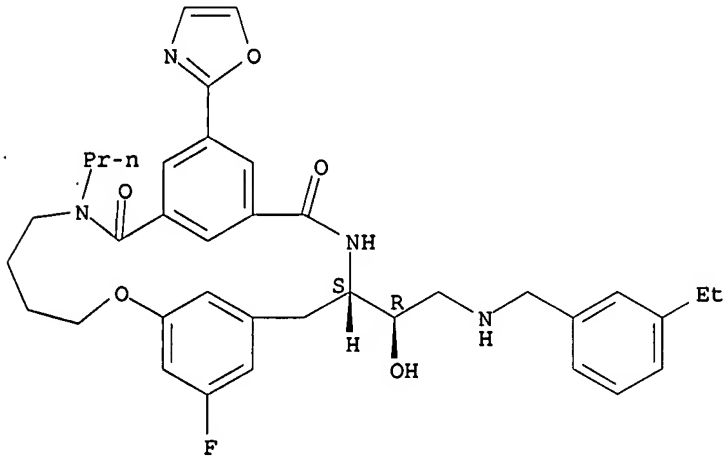
RN 477954-55-5 HCAPLUS
CN 11-Oxa-3,16-diazatricyclo[16.3.1.16,10]tricosa-1(22),6,8,10(23),18,20-hexaene-2,17-dione, 4-[(1R)-2-[[(5-ethyl-3-pyridinyl)methyl]amino]-1-hydroxyethyl]-8-fluoro-20-methyl-16-propyl-, (4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



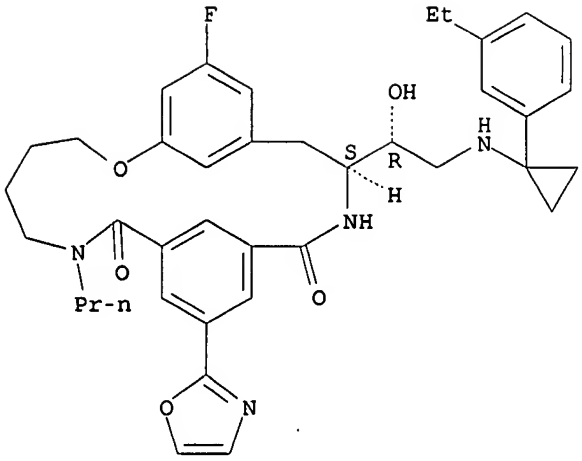
RN 477954-56-6 HCAPLUS
CN 11-Oxa-3,16-diazatricyclo[16.3.1.16,10]tricosa-1(22),6,8,10(23),18,20-hexaene-2,17-dione, 4-[(1R)-2-[[(3-ethylphenyl)methyl]amino]-1-hydroxyethyl]-8-fluoro-20-(2-oxazolyl)-16-propyl-, (4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



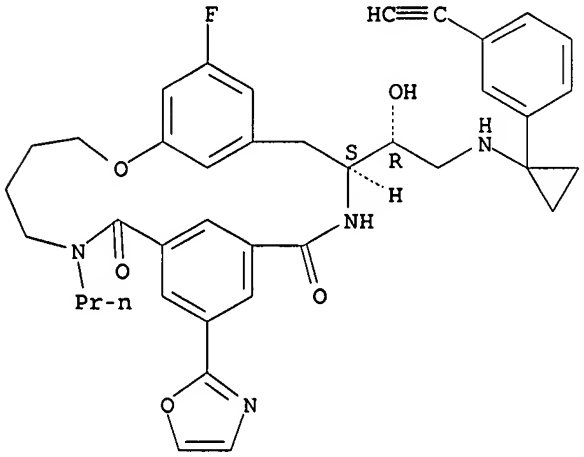
RN 477954-57-7 HCAPLUS
CN 11-Oxa-3,16-diazatricyclo[16.3.1.16,10]tricosa-1(22),6,8,10(23),18,20-hexaene-2,17-dione, 4-[(1R)-2-[[1-(3-ethylphenyl)cyclopropyl]amino]-1-hydroxyethyl]-8-fluoro-20-(2-oxazolyl)-16-propyl-, (4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



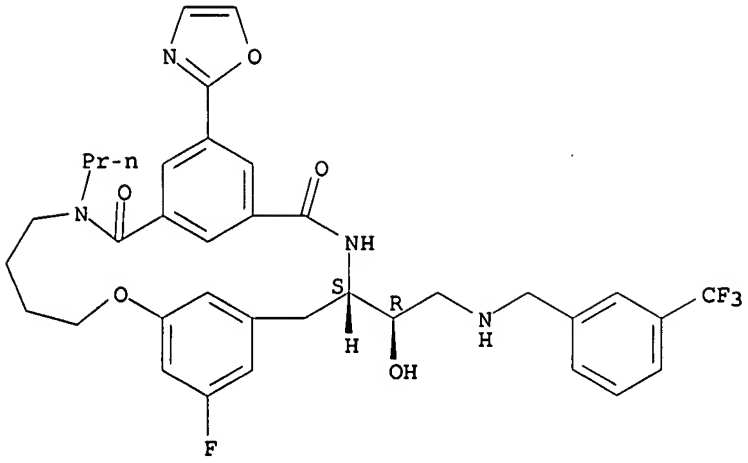
RN 477954-58-8 HCAPLUS
CN 11-Oxa-3,16-diazatricyclo[16.3.1.16,10]tricosa-1(22),6,8,10(23),18,20-hexaene-2,17-dione, 4-[(1R)-2-[[1-(3-ethynylphenyl)cyclopropyl]amino]-1-hydroxyethyl]-8-fluoro-20-(2-oxazolyl)-16-propyl-, (4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



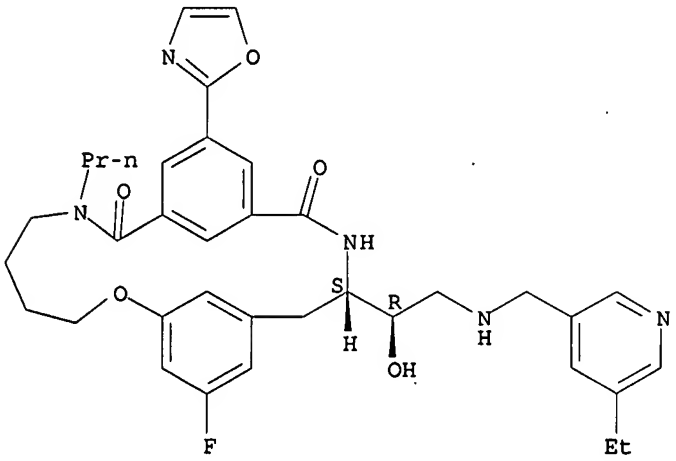
RN 477954-60-2 HCAPLUS
CN 11-Oxa-3,16-diazatricyclo[16.3.1.16,10]tricosa-1(22),6,8,10(23),18,20-hexaene-2,17-dione, 8-fluoro-4-[(1R)-1-hydroxy-2-[[[3-(trifluoromethyl)phenyl]methyl]amino]ethyl]-20-(2-oxazolyl)-16-propyl-, (4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



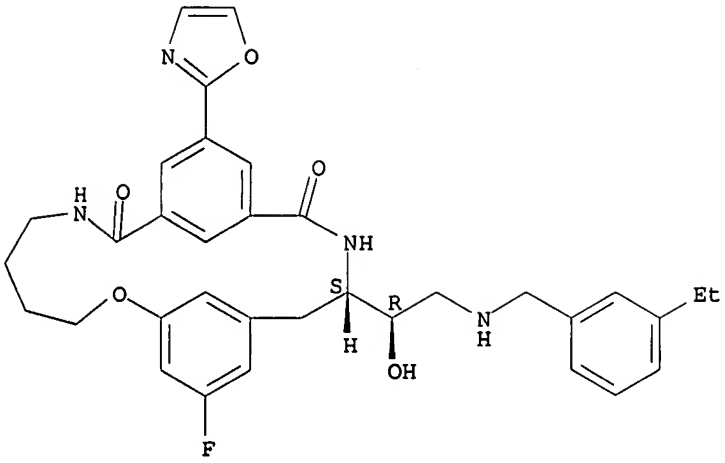
RN 477954-61-3 HCAPLUS
CN 11-Oxa-3,16-diazatricyclo[16.3.1.16,10]tricosa-1(22),6,8,10(23),18,20-hexaene-2,17-dione, 4-[(1R)-2-[[(5-ethyl-3-pyridinyl)methyl]amino]-1-hydroxyethyl]-8-fluoro-20-(2-oxazolyl)-16-propyl-, (4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



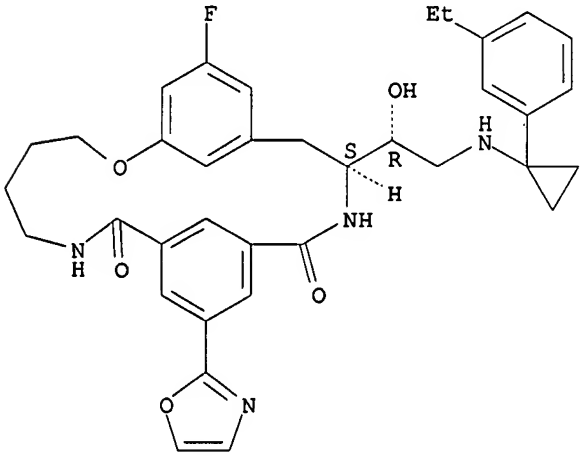
RN 477954-62-4 HCAPLUS
CN 11-Oxa-3,16-diazatricyclo[16.3.1.16,10]tricosa-1(22),6,8,10(23),18,20-hexaene-2,17-dione, 4-[(1R)-2-[[(3-ethylphenyl)methyl]amino]-1-hydroxyethyl]-8-fluoro-20-(2-oxazolyl)-, (4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



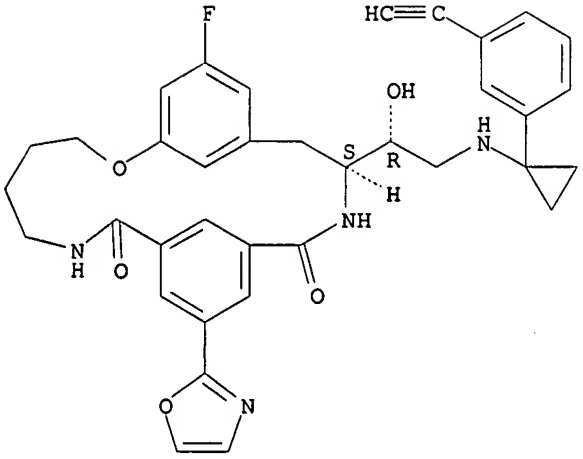
RN 477954-64-6 HCAPLUS
CN 11-Oxa-3,16-diazatricyclo[16.3.1.16,10]tricosa-1(22),6,8,10(23),18,20-hexaene-2,17-dione, 4-[(1R)-2-[[1-(3-ethylphenyl)cyclopropyl]amino]-1-hydroxyethyl]-8-fluoro-20-(2-oxazolyl)-, (4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



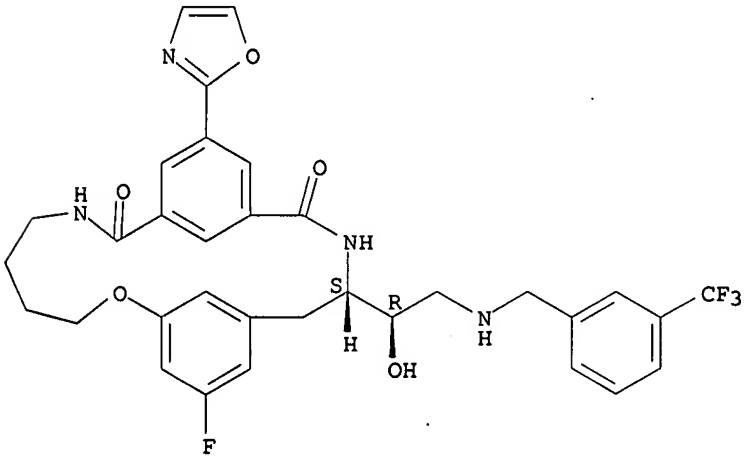
RN 477954-66-8 HCAPLUS
CN 11-Oxa-3,16-diazatricyclo[16.3.1.16,10]tricosa-1(22),6,8,10(23),18,20-hexaene-2,17-dione, 4-[(1R)-2-[[1-(3-ethynylphenyl)cyclopropyl]amino]-1-hydroxyethyl]-8-fluoro-20-(2-oxazolyl)-, (4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



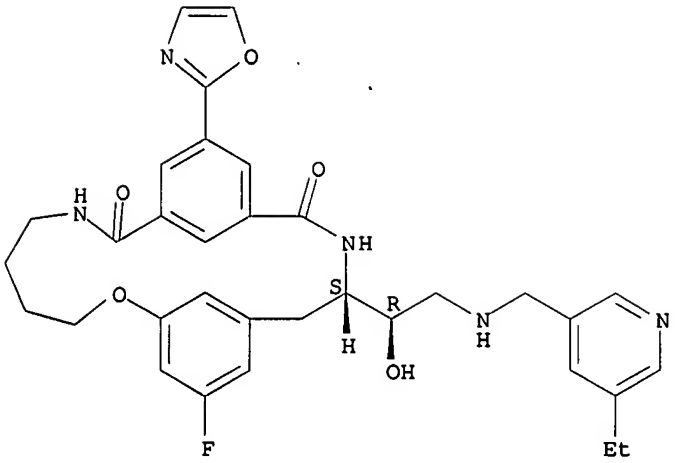
RN 477954-68-0 HCAPLUS
CN 11-Oxa-3,16-diazatricyclo[16.3.1.16,10]tricosa-1(22),6,8,10(23),18,20-hexaene-2,17-dione, 8-fluoro-4-[(1R)-1-hydroxy-2-[[[3-(trifluoromethyl)phenyl]methyl]amino]ethyl]-20-(2-oxazolyl)-, (4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



RN 477954-69-1 HCAPLUS
CN 11-Oxa-3,16-diazatricyclo[16.3.1.16,10]tricosa-1(22),6,8,10(23),18,20-hexaene-2,17-dione, 4-[(1R)-2-[[(5-ethyl-3-pyridinyl)methyl]amino]-1-hydroxyethyl]-8-fluoro-20-(2-oxazolyl)-, (4S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Fairlie, D	1996			WO-----9616950 A	HCAPLUS
Fairlie, D	2000	7	1271	JOURNAL OF MEDICINAL	

```
=> d his l9-

     FILE 'REGISTRY' ENTERED AT 14:46:45 ON 07 JUN 2007
                ACT J476C1/A
               ---------
L9               STR
L10           35 SEA FILE=REGISTRY SSS FUL L9
               ---------

     FILE 'HCAPLUS' ENTERED AT 14:47:02 ON 07 JUN 2007
L11            5 L10

=>
```